

CURRICULUM VITAE

Name: Georgeta Mihaela UNGUREANU

Current position: Associate Professor
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Birthday: June 11th, 1971

Born: Bucharest, ROMANIA

Nationality: Romanian

Status: not married

Field of interest: signal processing, biomedical engineering, artificial intelligence, programming

Personal details: I am reliable, well organized, and used to work on my own initiative. I am able to prioritize my workload. I am comfortably working on my own or as part of a team.

Additional skills: Good problem-solver, confident communicator, able to cope under pressure, self-starter

Objectives: I would particularly enjoy the chance to improve myself.

Languages: English (fluent), German (well)

Publications:

Books:

- **1 book** about programming in C/C++ (the publisher is recognized by The National University Research Council in Romania);
- **4 books** containing theory and applications for Digital Signal Processing laboratory (the publishers are recognized by The National University Research Council in Romania);

Papers:

- **about 90 papers** published in Proceedings of the International Conferences, specialized magazines (ISI indexed), and in Proceedings of the National Conferences;

- 6 chapters and works published in books (4 in international books);

Committee Member and (or) Co-Chair at the following conferences:

- ECIT'2004 - 3rd European Conference on Intelligent Systems&Technologies, 21-25 July 2004, Iasi, Romania
- SSIA'2003 - National Symposium on Intelligent Systems and Applications, 19-20 September 2003, Iasi, Romania
- BIOTECHNO2008 - International Conference on Biocomputation, Bioinformatics, and Biomedical Technologies , June 29 - July 5, 2008, Bucharest, Romania

Reviewer:

- IEEE Trans. Biomed. Eng. (ISI indexed) in 2007 and 2008
- Biomedizinische Technik Journal (ISI indexed) in 2005
- Reviewer WSEAS Conferences, with the proceedings ISI indexed: 2005 - now
- DATE2007 (Design, Automation and Test in Europe Conference & Exhibition 2007) in 2006

In 2006 I was selected to be profiled in [Marquis Who's Who in the World 2007](#).

Membership Device Officer of The Romanian EMBS IEEE Chapter.

Evaluator of research grants for the international research foundation BSF (*United States-Israel Binational Science Foundation*), for MCT (Romanian Ministry of Education, Research and Youth – *Ministerul Cercetarii si Tehnologiei din Romania*), and for CNCSIS (The National University Research Council in Romania - *Consiliul National al Cercetarii Stiintifice din Invatamantul Superior*).

IT Knowledges

Programming Languages: Matlab, C, C++, Visual C++, Pascal, Assembly Language (8086 and TMS320C50), Prolog, Fox, Oracle, Access (all very well)

Computer Networks Administration: Microsoft (very well), Linux (beginner); CISCO Network Administering System Certificate

Professional experience

From 1999 till now, after passing several exams in the competitions organized by Politehnica University of Bucharest, I have worked at “Politehnica” University of Bucharest, Applied Electronics and Information Engineering Department at the Electronics, Telecommunication and Information Technology Faculty, initially as Teaching Assistant, then as Lecturer and now as Associate Professor.

As **Associate Professor** I give lectures on Signal Processing, Medical Electronics, Neural Networks, Computer Architecture, Programming Techniques and Programming Languages (C++). I also supervise the seminars and laboratories related with these courses, and I coordinate graduation and semester

projects in the domain of Signal Processing, Biomedical Engineering and Programmed Systems. I supervise students for the semester and graduate diploma projects. I teach also students at the Master program of our department, specialization Medical Electronics, and at the Bioengineering and Biotechnology Department – a two years Master program. I am the coordinator of two Socrates (Erasmus) Bilateral Agreements, concerning students and teaching staff mobility, for the period 2006-2013, between Politehnica University of Bucharest and Universität der Bundeswehr, Muenchen, Germany and Technical University Eindhoven, The Netherlands, respectively. I am also the network administrator of two laboratories, each with 12 computers running Windows 2000 and Windows XP operating systems, a Windows 2000 server for the local network and a Linux server in order to provide all the internet facilities.

As a **researcher** I was involved in many research contracts with the Romanian Research and Technology Ministry, in which I have implemented various algorithms and methods related to Signal Processing and Neural Networks and their applications to biomedical engineering (see the attached list of projects). I was the **principal investigator** of a research project supported by *The National University Research Council in Romania (CNCSIS)* in the period 2004-2005, the **principal investigator** of an 8 months international research grant developed in 2004-2005, funded by the Netherlands Organisation for Scientific Research - *Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)*. In 2006 I was the **principal investigator** of one research project funded by German Research Foundation – *Deutsche Forschungsgemeinschaft (DFG)*. In 2007-2008 I was the **principal investigator** of a FP7 – Marie Curie project funded by the *European Commission*. Currently I am the principal investigator of a DFG-CNCSIS project.

In January 2003, I worked for a Danish company. During this time I have learned programming in NAVISION, which is based on ERP and client-server technology.

In 2002, I worked as a Network Administrator at a Romanian-Israeli company involved in the educational process. I was in charge with the network administration, but I had also to help my colleagues with their work (courses for Mathematics, English and Economics using Power Point).

In 1999, I implemented a complex program for ARR (Romanian Transport Authority). I have realized the road software using Fox programming language.

Education

2007 Coordinator of the 12 months Marie Curie Intra-European Fellowship, at Institute of Medical Statistics, Computer Sciences and Documentation/Medical Informatics, Faculty of Medicine, Friedrich Schiller University Jena, under the supervision of Prof. Herbert Witte. The research project: **Non-linear analysis of dynamic interactions between brain areas – NADIBA.**

- 2006 Fulbright Senior Research Award: 3 months research fellowship at Department of Biomedical Engineering, John Hopkins University, under the supervision of Prof. N. Thakor. Research project: **EEG Feature Extraction for Motor Imagery**.
- 2006 3 months DFG (Deutsche Forschungsgemeinschaft) research project in cooperation with Prof. W. Wolf, Institute of Mathematics and Signal Processing, Faculty of Electrical Engineering and Information Technology, University of the German Armed Forces Munich, Germany, Munich, Germany. Research project: **Fetal ECG extraction from abdominal recordings: evaluation of the Event-Synchronous-Canceller approach**.
- 2005 2 months DAAD postdoctoral fellowship (Deutscher Akademischer Austausch Dienst - German Academic Exchange Service) at the University of the German Armed Forces Munich, Germany, research group of Prof. Wolf to finish the IEEE paper resulting from the previous 10 months DAAD research project, **Respiration Monitoring by EMG and ECG Analysis**.
- 2004 8 months NWO research fellowship (4 months in The Netherlands and 4 months in Romania) (Nederlandse Organisatie voor Wetenschappelijk Onderzoek - The Netherlands Organisation for Scientific Research) at The Technical University of Eindhoven. The research project was developed with the support of Máxima Medisch Centrum, Veldhoven, The Netherlands, under the supervision of Prof. Johannes W.M. Bergmans, Signal Processing and Systems Department, Technical University Eindhoven. Research project: **Detection and Analysis of Diaphragmatic EMG Signals in Adults and Neonates**.
- 2003 10 months DAAD postdoctoral fellowship (Deutscher Akademischer Austausch Dienst - German Academic Exchange Service) at the University of the German Armed Forces Munich, Germany. The research project was developed in cooperation with ASKLEPIOS Medical Center of Intensive and Respiration Medicine in Gauting - Munich, Germany, under the supervision of Prof. Werner Wolf. Research project: **Respiration Monitoring by EMG and ECG Analysis**.
- 2002 I have got the PhD degree with “MAGNA CUM LAUDAE”. PhD Dissertation is entitled “**Analysis and Simulation of Some Processes in Neuromuscular System**”.
- I have got the CISCO certificate.
- 2001 One month research scholarship in Germany at the University of the German Armed Forces Munich (Prof. Werner Wolf). The financial support was granted by CNCSU (The National University Research Council in Romania) contract no. 78/1999. This period I could study some problems related to the respiratory system and I made a research on denoising methods used in diaphragmatic electromyographic signal

processing. This research developed in Germany was the background for 2 papers published in two international conference proceedings that year and for one chapter in a specialized book printed abroad.

2000 I have won a two weeks literature research scholarship in Greece at “Aristotel” University, Thessaloniki (Prof. Michael Strintzis). This scholarship was supported by the department of Applied Electronics and Computer Science where I worked as a teacher assistant from the same contract, no. 78/1999. This scholarship allowed me to study the applications of signal processing methods and neural networks in biomedical field.

I have got a Certificate as a National Guide.

1999 I have won a two weeks literature research scholarship in Germany at Friedrich-Alexander University – Erlangen, Nürnberg , “Institut für Medizinische Physik” (Prof. Willie Kalender). The financial support was also in the framework of the CNCSU research contract, no. 78/1999, entitled “Master and Doctoral Program for Information Engineering (Computer Science; Images, Shapes and Artificial Intelligence, Medical Electronics and Informatics). The scholarship allowed me to study the trends in biomedical field, especially in myoelectric diagnostics.

1997 Diploma in Economics, specialization in Economic Informatics with a general average of 8.41 on all these years of study, a diploma work mark 10, a license mark 9.66 and a general license average of 9.32. My diploma work was about financial prediction using artificial intelligence (neural networks). The software I have implemented for this purpose was implemented in Visual C++.

1996 Master Degree at “Politehnica” University of Bucharest, Electronics and Telecommunications Faculty, specialization Computer Systems Engineering. The thesis was about random signal processing using various spectrum analysis techniques, the software being implemented in C++ programming language.

1995 Diploma in Electronics and Telecommunications, specialization Applied Electronics, with a general average of 9.74 on all these years of study, a license mark 10 and a general license average of 9.87. **Honor Diploma (head of series)**. My thesis was entitled “Digital Signal Processing” and it contained the analysis and implementation of various digital signal processing algorithms. Their performance was analyzed both from the analytical and the qualitative point of view. In order to implement all these algorithms I used C++.

I have also attended a public relations course organized by “TAROM”. I have got the best appreciation and also an American recognized diploma in Public Relations (the professor was an American specialist in Public Relations).

1990 I have graduated “Sf. Sava” College, Bucharest, Mathematics and Physics specialization with a final exam (called Bacalaureat in Romania) average of 9.33.

Hobbies: Dance, music, sports, reading, traveling

Other details

Since 1998 I am member of Institute of Electrical and Electronics Engineers (IEEE).

As a Teacher Assistant, Lecturer and then Associate Professor I have been:

- In 2007, member in the Examination Commission of the Dissertations, Medical Electronics and Informatics Master
- In 2002, member in the Commission of the Entrance Examination at Bioengineering and Biotechnology Department – only with two years Master program. I am also a member of the Council of this department.
- Since 1998, member in the Examining Commission of Diploma projects;
- Since 1997, member in the Commission of the Entrance Examination at Politehnica University of Bucharest, Electronics and Telecommunications Faculty (1997, 1998, 1999);

First ranked in 1991 at the national competition for students in Electrical Engineering, “Traian Lalescu”;

Prizes at the mathematics and chemistry national competitions in Romania, when I was in school and in high-school.

January 2009

Mihaela Ungureanu